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09/750,765	12/28/2000	Mitchell R. Swartz		8044

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EXAMINER

ART UNIT PAPER NUMBER

DATE MAILED: 03/31/2004

EXHIBIT "A"

Please find below and/or attached an Office communication concerning this application or proceeding.

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

## IN RE THE APPLICATION OF:

Inventor : Mitchell R. Swartz

Serial no. 09/ 750,765

Filed: 12/28/00

For: METHOD AND APPARATUS  
TO CONTROL ISOTOPIC FUEL  
LOADED WITHIN A MATERIAL

This is a continuation of Serial no. 07/ 760,970

Filed: 09/17/1991

PAPER: 13

Group Art Unit: 3641

Examiner: Mr. Palabrica, R.J.

**EXHIBIT "B"**

October 22, 2002

**Applicant's Response To  
The Communication Of 7/22/02**

To Whom it Does Concern:

**AMENDMENTS OF CLAIMS AND SPECIFICATION**

In response to the Office communication dated 7/22/02 (cover as Exhibit A, attached), please amend the above-identified application as follows:

**In The Specification**

In response to the Office action of 7/22/02, please amend the above-identified application as follows, in response to, and to fully and completely comply with, the Examiner.

Please add to the U.S. PATENT DOCUMENTS on page 3 the following additional references.

-- 08/406,457 03/20/1995 Swartz, M.

09/573,381 05/19/2000 Swartz, M. ---

## COMMENTS ON THE AMENDMENTS AND REMARKS

9. For the convenience of, and at the request of, the Examiner, the Amendments also appended.

In all cases of amendment, there is no new material added. The changes were only made in response to the comments of the Examiner, the wording and scope of the changes maintains the wording and scope of the original disclosure. The new claims and amendments are strictly composed of the language of the specifications and claims of the original disclosure. In each case, wording and scope of the addition maintains the wording and scope of the original disclosure.

10. Based upon the Examiner's comments the claims of record have been rewritten and amended as new claims 1-10, 12-19, 21 and 22 which fully and completely distinguish the invention over the cited references. These claims respectfully are submitted and are patentable over the cited references because:

i) the claims recite novel structure and thus are distinguished physically over every reference [Sec. 102], and

ii) said physical distinction effects new and unexpected results, thereby indicating that said physical distinction is unobvious [Sec. 103].

'765 teaches a two-stage process involving loading of hydrogen into a metal electrode such as palladium, and extraction of product using an inhomogeneous magnetic field intensity. Applicant taught using a first stage of electrode loading, followed by, a second stage of sudden rapid ("catastrophic") flow of the loaded hydrogen within the metal. Applicant taught in the original specification and claims how this apparatus works and presented objective detailed evidence of the invention. The first stage is the electrode loading, and then, in the second stage a rapid ("catastrophic") flow of hydrogen results within the metal. After the initial loading, said flow (or flux) of hydrogen takes place (pages 15-16,19-22,28,33-34; S.N.07/760,970) until the previously-loaded palladium is spent of its deuterons or the material is otherwise damaged.

Claim 4 has been amended as follows:

4. (Amended) In a process using an isotopic fuel loaded into a material, a two-stage method for controlling the loading which includes in combination:

~~supplying said isotopic fuel into said material,~~

~~providing means for loading said isotopic fuel into said material to saturate said material,~~

then providing means for producing a change in the ~~active~~ quantity of said isotopic fuel within said material,

creating thereby a catastrophic diffusion flux of said isotopic fuel within said material.

4. (Corrected) In a process using an isotopic fuel loaded into a material, a two-stage method for controlling the loading which includes in combination:

loading said isotopic fuel into said material,

then providing means for producing a change in the quantity of said isotopic fuel within said material,

creating thereby a catastrophic diffusion flux of said isotopic fuel within said material.

Claim 6 has been amended as follows:

6. (Amended) A method as in claim 4 wherein ~~second material~~ loaded isotopic fuel is a member of the group consisting of deuterium or deuterons.

6. (Corrected) A method as in claim 4 wherein loaded isotopic fuel is a member of the group consisting of deuterium or deuterons.

Claim 8 has been amended as follows:

8. (Amended) A method as in claim 4, where the said means to produce a change in the ~~active~~ quantity of said isotopic fuel within said material is by a change in temperature of said material.

Claim 12 has been amended as follows:

12. (Amended) A method as in claim 10 wherein said means of removing said product utilizes an applied spatially inhomogeneous magnetic field.

12. (Corrected) A method as in claim 10 wherein said means of removing said product utilizes an applied spatially inhomogeneous magnetic field.

Claim 13 has been amended as follows:

13. (Amended) An apparatus to produce a product using a material loaded with an isotopic fuel, which includes in combination:

means to supply said isotopic fuel to said material,

means to load said isotopic fuel into said material to saturate said material,

means to produce a change in the active quantity of said isotopic fuel within said material,

means thereby to produce a catastrophic diffusion flux of said isotopic fuel within said material,

means thereby to produce said product.

13. (Corrected) An apparatus to produce a product using a material loaded with an isotopic fuel, which includes in combination:

means to load said isotopic fuel into said material,

means to produce a change in the quantity of said isotopic fuel within said material,

means to produce a catastrophic diffusion flux of said isotopic fuel within said material,

means thereby to produce said product.

Claim 19 has been amended as follows:

19. (Amended) An apparatus as in claim 13 wherein the means produce a change in the active quantity of said isotopic fuel within said material is by a change in temperature.

19. (Corrected) An apparatus as in claim 13 wherein the means produce a change in the quantity of said isotopic fuel within said material is by a change in temperature.

Claims 21 and 22 have been added as follows:

21. A method as in claim 1, where the additional step is taken of removing said product produced.

22. A method as in claim 21 wherein said means of removing said product utilizes an applied spatially inhomogeneous magnetic field.